Prevalence of chronic kidney diseases and its determinants among Iranian adults: results of the first phase of Shahedieh cohort study

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Abstract

Background: Chronic kidney disease (CKD) is one of the major global causes of mortality, described as the most neglected chronic disease. This study aimed to determine the prevalence and determinants of CKD in the setting of the Shahedieh cohort study in Yazd, Iran.

Methods: This cross-sectional study was conducted on adults in the baseline phase of the Shahedieh cohort study in Yazd, Iran. In this study, 9781 participants aged 30–73-year-old were investigated. The data used in this study included demographic and clinical variables and blood samples. Adjusted odds ratios were employed using multivariate logistic regression; meanwhile, population attributable risks for CKD were calculated and reported.

Results: CKD prevalence was 27.5% (95%CI: 26.57–28.34) in all participants, 24% in male, and 30.3% in female. The results of multivariate logistic regression analysis identified age (OR = 1.89, 95%CI:1.082–1.96), women (OR = 1.62, 95%CI: 1.45–1.79), BMI ≥ 30 (OR = 1.40,95%CI: 1.20–1.62), diabetes (OR = 1.38, 95%CI: 1.22–1.57), hypertriglyceridemia(OR = 1.20, 95%CI: 1.01–1.43), history of cardiovascular disease (OR = 1.20, 95%CI: 1.01–1.43), hypertension (OR = 1.18, 95%CI: 1.04–1.33), smoking (OR = 1.17, 95% CI: 1.02–1.33), LDL ≥ 130 (OR = 1.15, 95%CI: 1.01–1.31), history of kidney stone (OR = 1.14, 95%CI: 1.01–1.32) and hypercholesterolemia (OR = 1.14, 95%CI: 1.01–1.32) as risk factors for CKD. Among individual factors, obesity (11.25%), Hypertriglyceridemia (9.21%), LDL ≥ 130 (7.12%) had the greatest Population-Attributable Fraction, followed by Hypercholesterolemia (5.2%), diabetes (5.05%), smoking (3.73%) and high blood pressure (2.82%).

Conclusion: The results showed that the main determinants of CKD are potentially modifiable risk factors. Therefore, implementing early detection and screening programs in people at risk as well as preventive measures such as lifestyle modification programs and risk factors controlling can prevent the disease.

Keywords: Chronic kidney disease, Attributable risk, Hypertriglyceridemia, Hypercholesterolemia